tread cage will rotate relative to the binding with the result being that the cleat engaging members of the binding protrude subtantially above the top of the tread cage. Thus the shoe is supported either on top of, or engaged with the binding. If the shoe is placed on the pedal with the ball of the foot over the pedal spindle axis, only a cleat engaged position will be stable, for if the cleat is not properly engaged with the binding, there is only metal to metal contact between the bottom of the cleat and the top of the binding which is very slippery and insecure. If the shoe is placed on the pedal in a substantially different orientation, so as to avoid contact of the cleat with the binding, then the top surface of the binding contacts the sole of the shoe is supported primarily by the top of the binding, instead of the shoe cage. This is again, a slippery and insecure form of support. Furthermore, this foot position does not allow secure comfortable or and efficient pedalling. In order to have contact between the sole of the shoe and the top of the tread cage , the shoe must be at least substantially tilted to one side or the other, which is again is not safe, secure, comfrotable or efficient for pedalling. As such, the cage is not truly supportive of the rider's foot and cannot provide a stable shoe supporting surface for any type of shoe. As such this pedal cannot be considered a dual mode unbound/clipless pedal; it is a clipless pedal that attempts to provide a temporary surface for the rider to place their foot when terrain and/or speed prevent them from immediately clipping in to the binding. Thus this pedal design is not effective for use in unbound mode, and, like the design of Nagano, U.S. Patent #5,771,757 described above, is intended only to aid the rider in achieving cleat engagement under difficult circumstances. As such, it does not anticipate a bicycle pedal according to this invention, as it does not provide sufficient height variability between a binding and a shoe supporting surface to be comfortably and safely usable in either clipless or unbound mode. --

D' cont

Cont

Please replace paragraph 16, beginning on line 38 of page 9 of the application, as originally filed, with the following paragraph:

-- Figure 8 is sectional side view of an alternative embodiment of a bicycle pedal

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according to this invention, as indicated by section lines 3A-3A on figure 1A, closely related to the preferred embodiment, but featuring bindings which retract further into pedal body.

Please replace the 3rd paragraph beginning on line 35 of page 17, of the application, as originally filed, with the following paragraph:

-- In a variation of the the preferred embodiment, shown in fig. 8, shoe supporting surfaces **15** of pedal body **14'** are placed slightly higher (further apart from each other) and links **42'** made slightly longer to allow a corresponding increase in the distance between pins **38F** and **44** and between **38R** and **44** thusly providing further retraction of bindings **32** into pedal body **14'**. This may provide better shoe sole grip for worn down shoe soles, and possibly allow the use of certain non-sole recessed cleat and binding systems by allowing the cleat to protrude into cutout **30**. Fig. 8 also shows a precise method for measuring the heights of both bindings and clipless shoe supporting surfaces. A first gauge comprising a cylinder of radius 8 inches, which corresponds to the forefoot section of a typical cycling shoe of average size, and having its axis held parallel to the spindle axis, is fully impressed against a shoe supporting surface 15 to find the line of tangency of minimum distance from the spindle axis, thus simulating a shoe supported by the shoe supporting surface, in proper position for safe comfortable and efficient pedaling. This distance from the spindle axis to this line of tangency is denoted HS. A plane is then constructed through the axis of the cylinder gauge and the spindle axis, denoted in fig 8 by the centerline. The two possible heights of the corresponding binding are defined by the position of a second cylindrical gauge of the same radius as the first, whose axis is contrained to be parallel to the spindle axis and to move only in the previously described plane, the cylinder tangent to the binding on its generally uppermost facing surface or surfaces. These distances are denoted HB and HB' for bindings in the retracted (for unbound operation) and extended (for clipless binding operation) positions respectively. --

C3

Please replace the paragraph beginning on line 6 of page 21 or the application, as originally filed, with the following paragraph:

--The description above is detailed and specific, showing only several embodiments out of many possible ones which provide the same novel functionality. As such, the invention is not limited to the description in scope. For example, new materials or fabrication methods may be substituted for the suggested ones in the description, and parts may be changed in size and shape to reduce weight, and costs, to increase strength and durability, or to improve performance, especially in adverse conditions such as the presence of mud or dirt.-There are other possible mechanism configurations which provide similar functionality. As an example, it is possible to modify the alternate embodiment by affixing bases **134** to rear rail connector plates **146L** and **146R**, and affixing bail pivot pins **138** to front rail side plates **144L** and **144R**, in order to provide height variability in both the binding and the shoe supporting surfaces. This slightly reduces the total height of the pedal when operating in unbound mode. It would also be possible, and obvious to combine the main features of both the preferred embodiment with those of the last alternative embodiment, including the automatic conversion to unbound mode upon cleat release from the binding. There are other existing bindings possible which can be substituted, some of which are simple enough to be formed contiguous with a connecting linkage. Other possible bindings exist which can be substituted that have no moving parts. Other bindings which engage a non-sole recessed cleat may also be used to advantage, as the cleat could protrude slightly into cutout **30**. The shoe supporting surfaces **15** of the preferred embodiment may be shaped differently than shown, such as flat, rather than curved. They may have less surface area shown, to provide extra clearance for muddy conditions. The shoe supporting surfaces of the preferred embodiment may consist of traditional cages, similar to the last alternative embodiment, rather than broad surfaces, though this might limit its

C4

compatibility to certain types of shoe sole designs. The need to seal, or otherwise protect the moving mechanisms against dirt and water is obvious and the addition of features not described here can be anticipated, such as shaft seals for exposed rotating parts, flexible boots for exposed sliding parts, gaskets, surface hardening treatments, the addition of rolling elements to replace sliding surfaces or elements, dry-film surface lubrication treatments, surface corrosion protection treatments, surface texturing treatments, or features to provide better shoe grip, etc. The second alternative embodiment described here, having only one binding, but retaining some of the parts necessary for operation with two bindings can obviously be simplified for cost savings, at the expense of being easily convertible to the preferred embodiment, by the simple addition of another binding. Similarly, the last alternative embodiment can be reconfigured to provide for lighter weight, lower cost, and to provide other improvements.--

Abstract:

Cancel the second paragraph of the abstract on page 24, and retain the first paragraph.

Drawings:

Figure 8 of the original application is withdrawn, as being drawn claim 7 which is withdrawn in this amendment. A new figure 8 , showing a variation of the preferred embodiment having a retracted binding height lower than its corresponding shoe supporting surface is submitted for approval, per Examiner's request for corrected drawings in office action Item 6a, below. New figure 8 shows a cross-sectional view similar to that of figs 3a and 3b. All new and changed features are shown either drawn or outlined in red, along with their original positions in black. Thus, for clarity, a